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Response to Shapiro and Sober

In this section I will consider the response to Jaegwon Kim's Problem of Causal Exclusion put forth by Larry Shapiro and Elliott Sober in their paper "Epiphenomenalism—the Do's and the Don'ts".[1] Within this paper by Shapiro and Sober, I find three potential objections to reasoning of Kim's Problem of Causal Exclusion. I will here lay out these potential objections and present my own counterarguments to these objections, showing that the arguments of Shapiro and Sober are unsuccessful. While I will be separating these three objections for the sake of structure, the three objections are tightly interconnected and I will be moving fluidly between the objections in order to make my full case against Shapiro and Sober's arguments in general.

The first objection by Shapiro and Sober is aimed at Kim's use, as a premise in his argument, of Alexander's Dictum, which states by extension that in order for mental properties to be real they must have novel causal powers that their physical supervenience bases do not possess. In response to Shapiro and Sober, I will argue that the Problem of Causal Exclusion does not necessarily rest on Alexander's Dictum by showing that some

[1] Shapiro, Larry and Elliott Sober. "Epiphenomalism—the Do's and the Don'ts," in G. Wolters and P. Machamer (eds.), *Studies in Causality: Historical and Contemporary*. University of Pittsburgh Press, 2007, pp. 235-264.

other formulations of the problem by Kim himself are successful in motivating the Problem of Causal Exclusion without making use of Alexander's Dictum at all.

The second objection to Kim from Sober and Shapiro is that the Causal Exclusion problem rests on a conceptual impossibility. Shapiro and Sober apply the manipulationist account of causation from the work of James Woodward to the Problem of Causal Exclusion, attempting to show that the Problem of Causal Exclusion requires one to consider a hypothetical situation that is conceptually impossible on that account of causation. In my response to this objection I will consider various potential interpretations of Shapiro and Sober's claim that the Problem of Causal Exclusion rests on a conceptual impossibility, after which I will offer my own objections to these various interpretations, showing that each of the variants on this claim is unsuccessful.

The third objection to Kim's Problem of Causal Exclusion by Shapiro and Sober is that Kim's resulting broad epiphenomenalist are actually too broad in scope and that epiphenomenalist claims are properly restricted to the claim that one class of entities or properties is epiphenomenal with respect to another and not that that class is epiphenomenal in general. This objection is designed to show that mental causation is potentially coherent

(as opposed to the epiphenomenalist conclusions reach by Kim as a result of Causal Exclusionary Reasoning) when switching to an alternative and more empirical approach to causation. Two goals are supposedly accomplished via this objection. First, Shapiro and Sober claim to have shown, contra to Kim, that the Problem of Causal Exclusion does in fact rest on which particular account of causation one adopts. And second, Shapiro and Sober claim to be opening up some wiggle room for mental causation by limiting the scope of broad epiphenomenalist claims. In response to these claims by Shapiro and Sober, I will argue that the strength of the supervenience relation itself would rule out the possibility of empirically testing for mental causation as required by the manipulationist account of causation, and as such that Shapiro and Sober are unsuccessful in using that account of causation to open up some wiggle room for an empirical account of mental causation.

To begin, as stated above, Shapiro and Sober hold a manipulationist account of causation based upon the work of James Woodward.[2] According to the manipulationist account of causation, the only way to test for causal relations is to manipulate a supposed cause while holding fixed that cause's background conditions and to check for a corresponding change in

[2] Woodward, James. *Making Things Happen: A Theory of Causal Explanation*. Oxford: Oxford University Press, 2003.

the effect of the supposed cause. Shapiro and Sober apply this view of causation to Kim's Problem of Causal Exclusion and argue that Kim's demand for novelty in the causal powers of a mental property, above and beyond the causal powers of that mental property's physical supervenience base, is a conceptual impossibility. It would be impossible to test a supervening mental property, Shapiro and Sober argue, because it is impossible to manipulate a supervening mental property while holding fixed that mental property's physical supervenience base. The necessity of the supervenience relation between a physical supervenience base and its supervening mental property prohibits a change in the metal property if the physical supervenience base property is held fixed.

The issue of conceptual impossibility is quite complex, and I will deal with that issue shortly. First, however, I wish to spend some time examining Sober and Shapiro's representation of Kim's Problem of Causal Exclusion. There is a genuine problem in attempting to provide a definitive account of the Problem of Causal Exclusion insofar as there have been multiple formulations of the Problem of Causal Exclusion by Jaegwon Kim himself. Shapiro and Sober represent the Problem of Causal Exclusion, and its resulting epiphenomenalist view of mental properties, as being dependent upon Alexander's Dictum, which is

a general principle that to be real is to have causal powers. By extension then, in terms of mental properties, one might hold as Kim does in at least one formulation of the Problem of Causal Exclusion, that for an irreducible mental property to be real it must have irreducible and novel causal powers above and beyond the causal powers of its physical supervenience base. Shapiro and Sober's critique of Kim's epiphenomenalism is aimed squarely at his invoking of this principle:

> Macroproperties, Kim believes, can be real only if they can do things that their physical supervenience bases cannot. But this suggests that to test whether a given macroproperty is real, one must hold fixed its supervenience base while manipulating the macroproperty and see if this makes a difference in some candidate effect term. How else to discover those powers that a macroproperty has *in addition to* those that its supervenience base possesses?... We reject the reasoning that leads Kim to endorse, at least tacitly, the master argument. We can grant that a functional property has no causal powers beyond those of its realize. However, this does not mean that the causal relations into which the functional property enters are unreal. This conclusion requires an additional assumption – precisely the one that Kim makes – that functional properties have real causal powers only when they have powers *additional* to the ones possessed by their realizers. (Shapiro and Sober, 11)

The problem with this approach by Shapiro and Sober is that there have been multiple formulations of the Problem of Causal Exclusion (under various other titles), others of which do not depend on Alexander's Dictum. I will argue that the version of

the Problem of Causal Exclusion as formulated in Kim's *Mind in a Physical World*[3] is the strongest version of the Problem of Causal Exclusion.

In general I hold that a good philosophical argument reaches the most substantive conclusion possible from the weakest assumptions. If an argument makes too many strong assumptions, an argument may be suspected of having begged the question by implicitly containing the argument's conclusion in the argument's premises. One might very well place Alexander's Dictum in the category of problematic and suspect assumptions, as it makes general claims about what it means for something to be real that are far from being unproblematically obvious. Now Alexander's Dictum might be true or it might be false, but that is not the issue at hand. What matters for evaluating Shapiro and Sober's critique of Kim's reasoning is whether they are correct in their claim that Kim's reasoning is dependent upon that principle. I will argue below that it does not.

In Mind in a Physical World, Jaegwon Kim presents what he calls "The Supervenience Argument" against nonreductive mental causation. His argument begins with the weak and unproblematic assumption that the supervenience relation holds between a hypothetical and nondescript physical property and its resulting

[3] Kim, Jaegwon. *Mind in a Physical World*. Cambridge: The MIT Press, 1998.

supervening mental property. I say that this assumption is unproblematic because it is an assumption that would be generally accepted by nearly every contemporary philosopher of mind. There is a problem with the assumption insofar as Kim glosses over the fact that there are multiple accounts of the supervenience relation, which may have an impact on the soundness of Kim's argument.[4] But although the general claim that mental properties supervene on physical properties is ambiguous, this ambiguity remains unproblematic if Kim is correct that his argument is not dependent on which account of supervenience (or which account of causation, for that matter) is correct. All that Kim needs to make his argument is the fact that the instantiation of a physical supervenience base necessitates the instantiation of that base's supervening mental property, which is a principle that any account of mind-body supervenience would include.

As can be seen in my initial sketch of The Supervenience Argument and the Problem of Causal Exclusion in chapter 1, Alexander's Dictum is not invoked as a key assumption or a key premise in The Supervenience Argument. The two key assumptions that are made by Kim in The Supervenience Argument are, first of all as stated above, that the supervenience relation holds

[4] Cf. Horgan, Terence. "From Supervenience to Superdupervenience: Meeting the Demands of a Material World," in Mind 102: 555-586, 1993.

between physical and mental properties, and second of all that the physical domain is causally closed. Each of these two assumptions is relatively unproblematic and widely accepted, and they are likely to be accepted by Shapiro and Sober as well. Given the seeming non-dependence of the Problem of Causal Exclusion, in this formulation at least, on Alexander's Dictum, it is worthwhile to examine The Supervenience Argument to see if Alexander's Dictum, or some similar principle, is implicitly invoked in the argument's reasoning. Jaegwon Kim has certainly endorsed Alexander's dictum in some of his writings, as in the following excerpts:

> This we may call Alexander's Dictum: To be real is to have causal powers. I believe this principle, as applied to concrete existents and their properties, will be accepted by most nonreductive physicalists. (Kim, 1993, 348)[5]
>
> -and-
>
> Now mental properties…are irreducible net additions to the world. And this must mean, on Alexander's Dictum, that mental properties bring with them new causal powers, powers that no underlying physical-biological properties can deliver. For unless mentality made causal contributions that are genuinely novel, the claim that it is a distinct and irreducible phenomenon over and beyond physical-biological phenomena would be hollow and empty. To be real, Alexander has said, is to have causal powers; to be real, new, and irreducible, therefore, must be to have new, irreducible causal powers. (Kim, 1993, 350)[6]

[5] Kim, Jaegwon. "The Nonreductivist's Troubles With Mental Causation" in *Supervenience and Mind*. Cambridge University Press, 1993.
[6] Ibid.

Despite his previous endorsement of Alexander's Dictum as a motivation for his epiphenomenalist arguments, there is only one point in The Supervenience Argument (1998) at which Kim makes a claim that approximates Alexander's Dictum. The point occurs in Kim's critique of the hypothesis that the mental property M and the physical property P could jointly be a single sufficient cause of the resulting physical property P*:

> Nor does it seem plausible to take M and P together to constitute a single sufficient cause of P*. There are two reasons for this. First, P alone is causally sufficient for P*, and so is M. It is difficult to see how M and P together can pack any more causal power than M alone or P alone. Second, this approach is plausible only if it claims M to be a necessary component in the causation of P*, and this means that… it involves a violation of the physical causal closure. For a complete causal explanation of why P* was instantiated on this occasion would have to advert to the presence of a nonphysical causal agent M, in addition to P. (Kim, 1998, 44)[7]

Kim claims that one should not entertain this hypothesis because the addition of M to P would not contribute anything extra to the production of P* or bring about any novel change to P* that P alone would not already account for. Given the causal closure of the physical domain and hence P's causal sufficiency with respect to P*, Kim seems correct here without relying heavily on Alexander's Dictum. Kim is merely claiming that there is no positive reason to entertain the hypothesis while P

[7] Kim, Jaegwon. "The Many Problems of Mental Causation" in Mind in a Physical World. Cambridge: The MIT Press, 1998.

is causally sufficient for P* on its own.[8] Kim does not need to invoke a strong principle like Alexander's Dictum here to rule out the possibility that P and M jointly form a single sufficient cause of P*. Moreover, it is unlikely based on Shapiro and Sober's paper that they themselves would be likely to entertain the hypothesis that Kim is here considering.

In this part of The Supervenience Argument, Kim is considering various possible approaches one could take if one wishes to retain M as a causal factor in the production of P* given that P alone already has a strong claim on that role. Kim argues that there are only two options for making sense of the claim that M is causally relevant in the production of P*. Either P and M could jointly count as a single sufficient cause of P*, or P and M could be independent overdetermining causes of P*. Given the apparent implausibility of the notion that P and M constitute a single joint sufficient cause (especially when considering that M is assumed to be irreducible to P under nonreductive physicalism), it is far more likely that one could plausibly entertain the overdetermination hypothesis instead.

[8] I will return to this point below. One might hold that the notion of P alone without M is itself a conceptual impossibility given the necessity of the supervenience relation. If M supervenes on P, then any instantiation of P would necessarily result in the instantiation of M. P and M would therefore be inextricably linked, which one might hold to create a theoretical problem with the concept of P alone sans M. I believe this objection to be easily overcome, and I will present my argument against this objection below.

Kim's positive arguments against the overdetermination hypothesis aside, the important realization for the present purpose is that nowhere in his response to the overdetermination claim does Kim invoke the principle that Shapiro and Sober are attacking: Alexander's Dictum. Now Kim may very well believe the Alexander's Dictum thesis to be true, and it may even be lurking in the background providing the motivation for the Problem of Causal Exclusion in the first place. But the fact that this principle may motivate the problem does not ipso facto make the principle a crucial premise of the reasoning within the argument itself.

As I have shown above, Jaegwon Kim's Supervenience Argument is not dependent at all on the truth of Alexander's Dictum. The Problem of Causal Exclusion, if properly set up as Kim has done in The Supervenience Argument, relies on a minimum of relatively unproblematic assumptions. This is not to say that there are not other potential problems with the argument than the problems raised by Shapiro and Sober, but Shapiro and Sober have provided an argument that is poorly aimed at the strongest formulation of the Problem of Causal Exclusion. They are correct that Kim's earlier work on mental causation often made use of Alexander's Dictum or some related principle, but Kim himself seems to have realized that the Problem of Causal Exclusion is made even more

forceful by keeping the key assumptions to a minimum. The problem is not that Shapiro and Sober have misrepresented Kim's argument, seeing as how Kim's earlier work does indeed make use of Alexander's Dictum. The problem is instead that Shapiro and Sober have failed to consider the strongest version of the Problem of Causal Exclusion, which I hold to be The Supervenience Argument.

I will now shift my focus to the second critique of the Problem of Causal Exclusion by Shapiro and Sober. Shapiro and Sober make the claim that the Problem of Causal Exclusion rests on a conceptual impossibility. If Woodward's manipulationist account of causation is correct, then an entity's causal efficacy is dependent upon its ability to bring about detectable (in principle) changes in that entity's supposed effects when manipulated against fixed background conditions. Since this sort of manipulation is inherently impossible, Shapiro and Sober hold that Kim's demand for novelty in a mental property's causal powers requires a type of hypothetical manipulation that is inherently incoherent:

> The crucial mistake in this line of reasoning is that it requires one to consider a counterfactual situation that is in fact impossible and is in any case irrelevant to the question of whether the mental property X, or any other supervening property, is epiphenomenal with respect to an effect term Y. To see if X has an effect on Y that is additional to whatever

> effect MSB(X) [i.e. the Microsupervenience Base of X) has on Y, one would have to compare what would happen to Y if both MSB(X) and X were present with what would happen to Y if MSB(X) were present and X were absent. The master argument purports to evaluate this counterfactual and then concludes that the mental property X makes no contribution to Y additional to the effect that MSB(X) has. The conclusion is then drawn that mental properties are causally inert. The principal fallacy is the thought that if X causes Y, then X must have an impact on Y *additional* to the impact on Y that MSB(X) has. (Shapiro and Sober, 7)

I will argue below that Shapiro and Sober are mistaken in their claim that the reasoning behind the Problem of Causal Exclusion rests on the sort of conceptual impossibility that they suggest. I will consider possible interpretations of what this "conceptual impossibility" could mean, and I will present my own arguments against each possible interpretation to show that each possible interpretation results in an unsuccessful argument against Kim's Problem of Causal Exclusion. I will begin with considerations that are not, strictly speaking, directly from Shapiro and Sober, but which are nonetheless in the spirit of the considerations raised by Shapiro and Sober in "Epiphenomenalism—the Do's and the Don'ts."

Prima facie, the basic meaning of "conceptually impossible" is to denote contradiction. As such, if the reasoning behind the Problem of Causal Exclusion is one of conceptual impossibility, as Shapiro and Sober suggest, then it should be

possible to locate an internal inconsistency or contradiction in the Supervenience Argument. Before returning to the issue of Woodward's manipulationist account of causation and its impact on the Problem of Causal Exclusion, I will consider a possible candidate for an internal contradiction in the concepts utilized by Kim in his Supervenience Argument.

Recall that an early step in Kim's Supervenience Argument for the Problem of Causal Exclusion was the claim that a physical property P without its supervening mental property M is causally sufficient to bring about its resulting physical effect P*. Kim uses the causal sufficiency of the physical property P to argue that P's supervening mental property M is causally inert with respect to P* (by way of his arguments against the overdetermination of P* by P and M and his arguments against the joint causation of P* by P and M). Kim invites his readers to inquire with him whether m would have a claim as a cause of P* given that P alone, without M, would be causally sufficient for P* to occur. Given the resulting violations of the principle of physical causal closure, were on to posit that P is not sufficient for P* but rather requires the presence of the supervening mental property, Kim argues that it is only P that has a genuine claim as a sufficient cause of P*. To deny this, Kim claims, would be to deny physical causal closure and would

ipso facto be a return to the interaction problems associated with traditional Mind-Body Dualism.

One might object to Kim's formulation of the problem here with the claim that Kim's consideration of P alone, without M, contradicts his reliance on the supervenience relation between P and M. if the relationship between P and M is a supervenience relation, then the mental property M is a necessary consequence of its physical supervenience base P. In other words, whenever P is instantiated (whether P is a simple physical property or a complex set or conjunction of simpler physical properties, as Karen Bennett holds), the mental property M must necessarily be instantiated also. Were this not the case, the supervenience relation would simply fail to hold between P and M, which would undermine the force of the Supervenience Argument and the resulting Problem of Causal Exclusion. Given this tight connection between P and M, one might object to Kim's argument that the very notion of P alone, without M, is incoherent with the assumption that the mental property M supervenes on its physical supervenience base P.

The central worry behind this objection is that the concept of a physical supervenience base alone without its supervening mental property cannot be considered without an internal contradiction. One could, of course, appeal to Bennett's

insight that a simple physical property P cannot properly be thought to be sufficient to instantiate a mental property M (in favor of a complex conjunction of many simple physical properties P1, P2, P3, etc.). Using this strategy, one could attempt to avoid the conceptual impossibility problem just raised by claiming that it does, in fact, make sense to consider P alone due to the fact that P must be conjoined with other physical properties in order for the mental property M to be instantiated.

Two difficulties arise with this proposed response. First, Kim's reasoning is dependent upon the claim that P is, in fact, sufficient for M to be instantiated. Whether P stands for a simple physical property or for the set of properties suggested by Bennett makes no difference to Kim's reasoning. Kim's argument is neutral as to the exact nature of the physical supervenience base P, so long as P is sufficient to guarantee M. If P, as a simple physical property, is unable to count as a sufficient condition for the mental property M, then P must be considered to be a complex set of properties. But one could then raise the same objection about the necessity relation between the complex property P and the mental property M. One would still end up with the resulting tension between P alone, as a complex set, without its supervening mental property M.

The second difficulty with this strategy is that the claim that P alone is insufficient for M (in favor of P being a complex set of physical properties) would also threaten the tight connection between the physical cause P and the resulting physical effect P*. If P alone were insufficient for M to be instantiated, one could equally claim that P alone would be insufficient for the resulting physical effect P* to be instantiated. Not only would this suggestion undermine the supervenience relation between P and M, but it would also threaten the causal efficacy of P in bringing about its effect P*. Or to put the problem another way, if the consideration of P alone is a contradiction with the necessity of the supervenience relation, then the consideration of P alone is equally a contradiction with the necessity of the causality relation between P and P*. To frame this point in terms of a reductio ad absurdum: if the notion that P alone, without M, is incoherent with supervenience, then it is also incompatible with physical causation in general. It would be impossible to consider causes and their necessary effects independently from one another due to the presence of a tight connection between them. In terms of causality, I find it to be an absurd consequence that one would be unable to consider a physical event (or property) in isolation if that event has any necessary

consequences. It is plausible to think that anything real will have an effect of some sort, but this does not mean that one cannot consider any given event in isolation from its resulting causes as a distinct entity or occurrence.

There is a lesson to be learned from the considerations of the prior paragraph. The presence of a relationship of necessity between two properties or events does not prohibit the independent consideration of those properties. Take an ordinary conditional statement “A implies B”; or better still a modal statement “A necessarily implies B.” Assuming that A and B are not numerically identical (in other words, assuming A and B are distinct from one another) the presence of a tight connection between A and B does not prohibit the consideration of A or B independently (as one does each time one performs the operation of Modus Ponens in first order logic. It may be true that B is a consequence of A, but A is still a distinct statement (or event, or property) with its own nature. As such, it does appear to be possible that A can be considered in isolation, even though B may in fact be a necessary consequence of A.

Applying this reasoning to the objection against Kim’s consideration of P alone, without the supervening mental property M, it follows that the tight connection between P and M due to the supervenience relation between P and M does not

preclude the consideration of P and M qua independent entities. It must be recalled that Kim's argument assumes the truth of non-reductive physicalism, in which M is irreducible with respect to P. This irreducibility means that M and P are, by definition, distinct properties (or entities, if one prefers). It is true that there is a tight connection between M and P, assuming the supervenience relation holds, but the irreducibility of M to P allows the two properties to be recognized as genuinely distinct, although they may be inseparably conjoined by necessity.

One could respond to my reasoning here with the claim that, despite the irreducibility of M to P, it is still incoherent to consider P alone without M, since it is, by definition, impossible for P ever to occur without M as required by the supervenience relation. Since P can never possibly occur without M (this is somewhat ambiguous, due to the ambiguity of the concept of possibility in terms of logical possibility, metaphysical possibility, and physical possibility), one might argue that it still makes no sense to consider P alone as a cause of P* since P could never actually be alone without M tagging along as a necessary consequence.

Despite the reasoning in the objection in the above paragraph, I argue that the impossibility of P's occurring

without M does not directly contradict the claim that P alone is sufficient for both the physical effect P* and the supervening mental property M. Recall that the limiting factor in this discussion is the attempt to interpret "conceptual impossibility" as "logical contradiction." If I can show, then, that the supervenience relation is compatible with the notion that P alone, without M, then this interpretation of "conceptual impossibility" will be a dead-end as an argument against the reasoning behind the problem of Causal Exclusion.

A simple example will suffice to show that the presence of a necessity relationship between M and P is coherent with the notion that P alone is the sufficient cause of P*. Suppose a white cue ball on a billiard table strikes two other balls (say, a red ball and a green ball) simultaneously. The white ball causes each of the other two balls to move in opposite directions towards two different corner pockets. The white ball's striking the red ball is sufficient to cause the red ball to move (ceteris paribus), and the white ball is also sufficient to cause the green ball to move. The independent motions of the red ball and the green ball may be considered to be two necessary consequences of a single sufficient cause: the motion of the white cue ball. Despite the necessity of the motion of the red ball stemming from the motion of the white ball, one is

still able to consider that motion of the white ball in isolation as the sole sufficient cause of the motion of the green ball in the opposite direction. One is not forced in this example to conclude that the motion of the white cue ball (in isolation from the motion of the red ball) is an incoherent or inconsistent notion from the mere fact that its motion has multiple necessary consequences stemming from that motion.

The relation of a physical property P to its supervening mental property M and to its resulting physical effect P* is analogous to the above billiard table example. Just as the motion of the white cue ball is considered to be the sole sufficient cause of the motion of the other two billiard balls, the physical property P has two necessary consequences stemming from itself. The physical property P is sufficient to guarantee the instantiation of the mental property M, as required by the stipulation of the supervenience relation between M and P. The physical property P is also sufficient to bring about its physical effect P* by the necessity relationship of causality, as required by the stipulation of the causal closure of the physical domain. These may be considered to be two distinct notions of necessity, just as in the case of the motion of the red and green billiard balls from the motion of the single white cue ball, which is the sole cause in the scenario. From this it

can be learned that the presence of multiple necessity relations stemming from a single sufficient condition does not threaten that condition's claim as the sole sufficient condition of both consequents. It does not matter whether the necessity relations in question are relations of supervenience or relations of causality proper. Whether the consequents arise out of relations of causality or supervenience, it is still the single sufficient condition P that is doing all the proverbial work in bringing about both consequents.

One might object that my billiard ball analogy does not hold insofar as the supervenience relation and the causality relation are of different types while the billiard ball example makes use of two necessity relations of the same type: causality. To this objection I reply that the only relevant difference between the causality relation and the supervenience relation is the time factor. Causes are normally though to precede their effects, while supervenience is an instantaneous relationship. However, this difference is insufficient to break my analogy. Whether the relation is causality or supervenience, the causal effect and the supervening property are consequents of their cause and their supervenience base, respectively. Whether or not this picture of the relationship between a physical property P, its supervening mental property M, and its

physical effect P* is an accurate representation of these properties in reality is still an open question; however, the picture Kim presents of P being the sole sufficient condition of M and of P* is at least coherent and free from the type of logical contradiction posited in this objection. The physical P may always have multiple consequents due to its role as a supervenience base for M, but this does not preclude the possibility that it is P alone that is causally sufficient for bringing about further physical effects such as P*. To conceive of Pas playing this dual role is certainly not an outright contradiction.

Now that I have shown that Kim's use of the term "P alone" is not an outright contradiction with P's role as a supervenience base for M, I will return to Shapiro and Sober's critique of the Problem of Causal Exclusion in terms of Woodward's manipulationist account of causation. Recall that Shapiro and Sober's argument rests on the claim that it is impossible to manipulate a supervening mental property while holding fixed that mental property's physical supervenience base. My objection to this claim is based on the fact that there is an ambiguity in the formulation of this claim by Shapiro and Sober in their use of the term "impossibility." When one is making use of modal concepts such as possibility,

impossibility, necessity, etc. it is of the utmost importance to keep in mind the various senses of those terms. It is quite easy, for example, to conflate the concept of logical possibility with the concept of physical possibility. The various senses of possibility, however, are not equivalent. Something can be physically impossible in the actual world without being logically impossible. Often a simple example invoking a different possible world will establish that something that is physically impossible in the actual world is logically possible and perfectly consistent in other possible worlds (say, for example, a possible world with different physical laws of nature than those in the actual world). Given the potential for conflating the various senses of modal concepts in philosophical argumentation, it is worthwhile to examine the argument by Shapiro and Sober to determine if they have conflated the various senses of possibility/impossibility in their claim that the Problem of Causal Exclusion rests on a conceptual impossibility. In the following section, I will show that a consideration of the various senses of possibility will result in a solution to the conceptual problem that Shapiro and Sober see with the Problem of Causal Exclusion. I do have reservations about their claim that one can solve the problem of mental causation by appealing to alternative theories of

causation, which I will discuss later in this section. However, here I will show that there is an elegant solution to the conceptual problem cited by Shapiro and Sober when thinking of possibility and impossibility in modal terms.

With these modal considerations in mind, I shall now analyze the supervenience relationship between M and P in order to show that the argument of Shapiro and Sober is unsuccessful. To begin I shall posit a supervenience relationship between a mental property M and its physical supervenience base P. This means that M is a necessary consequence of P. This itself is an ambiguous statement, however. The statement that M is a necessary consequence of P is neutral as to whether M is a necessary consequence of P in terms of physical necessity or in terms of logical necessity. Were M to be a necessary consequence of P in terms of physical necessity alone, this would leave open the possibility that M is not a physically necessary consequence of P in a logically possible world in which there were sufficiently distinct laws of nature. In such I case, it would still make sense to talk of M supervening on P, but that the necessity of the supervenience relation between M and P would be limited to the weaker sense of physical necessity instead of the stronger sense of strict logical necessity.

In such a case, in which M is a physically necessary consequence of P in the actual world (remembering that the current discussion is still restricted to the domain of non-reductive physicalism) without being a logically necessary consequence of P, the reasoning of Shapiro and Sober seems to fail. Recall that Shapiro and Sober claim that it is impossible (ambiguous) to manipulate a supervening mental property while holding fixed that mental property's physical supervenience base. If, however, M is not a logically necessary consequence of P but instead a consequence in some weaker sense of necessity such as physical necessity such as physical necessity, then I argue that the claim of Shapiro and Sober regarding the impossibility of the relevant case of manipulation is actually false.

If one adopts the view that analogous physical supervenience bases in distinct possible worlds (presumably with sufficiently distinct physical laws) could result in the instantiation of non-analogous supervening mental (or other properties) as a result of those distinct natural laws, then the claim of Shapiro and Sober regarding the conceptual impossibility of manipulating a supervening mental property while holding fixes that property's supervenience base turns out to be false. It would be true that in each individual possible

world the supervening mental property would be a physically necessary consequence of the mental property's supervenience base. However, it would be possible in such a scenario to conceive consistently of a way to hold fixed a physical supervenience base (across possible worlds) while "wiggling" (in terms of variation across possible worlds) the supervening mental property.

Shapiro and Sober may be correct that in a given individual possible world, the relationship of necessity between a mental property and its physical supervenience base would prohibit the manipulation of M against the fixed background condition of P in the sense of scientific experimentation. However, when one considers the possible world scenario that I am positing above, it becomes clear that there in indeed a logically consistent way to consider various "manipulations" of a supervening mental property against a fixed supervenience base. Instead of manipulations in the scientific sense, however, the manipulation of M against a fixed P would take the form of hypothetical reasoning about logically possible but distinct possible worlds. In other words, one could compare two logically possible worlds in which there is a physical property P but with distinct supervening properties due to the presence of sufficiently distinct physical laws in the two possible worlds under

consideration. One could examine the status of a given mental property M with respect to some subsequent physical property P*, following Kim's paradigm, by comparing one possible world to another, in which the supervening property M has changed with respect to M in the first (or actual) world but in which the physical supervenience base P is unchanged across the possible worlds under consideration.

While the possible world methodology above would not properly count as "manipulation" in the sense of the term used by Shapiro, Sober and Woodward, I hold that this is of little import regarding the soundness of my argument against the fundamental claims made by Shapiro and Sober. Shapiro and Sober are coming to the philosophical discussion table with the goal of providing an empirical methodology for dealing with the question of mental causation. The methodology I have proposed in the above section falls outside the domain of empirical inquiry, as any consideration of other metaphysically possible world would. This distinction in methodology points to a fundamental schism in the various approaches to the question of mental causation. Ought the question of to be relegated to the domain of hypothetical or metaphysical reasoning (what non-empiricists might regard to be properly philosophical), or to the domain of empirical or scientific reasoning? The

manipulationist account of causation clearly brings an empirical bias to the discussion insofar as it, by definition, prohibits the consideration of any hypothesis that is inherently un-testable; after all, it is the notion of testability that provides the philosophical motivation for preferring a manipulationist account of causation in the first place.

But even if one were to bracket the broader question about the overall philosophical approach to mental causation, what the consideration of the possible world scenario above accomplishes is a demonstration that the claim of Shapiro and Sober to conceptual impossibility is no such thing. The impossibility they cite may in fact be one of physical impossibility, but it does not extend to the level of strict logical impossibility. And unless one begs the question against a more metaphysical or speculative approach to the question of mental causation in favor of a more empirical approach (or a manipulationist approach, etc.), then it is clear that Shapiro and Sober have failed to make their case adequately for a logical inconsistency inherent to Kim's problem of Causal Exclusion.

I will now consider the third potential objection to Kim's Problem of Causal Exclusion present within "Epiphenomenalism—the Do's and the Don'ts." An essential point, if not the crucial point, in this article by Shapiro and Sober is that the scope of

broad epiphenomenalist claims ought to be restricted to claims about one class of entities (properties, or events, or objects, etc.) being epiphenomenal with respect to some other class of entities.

> In summary, well-conceived arguments for epiphenomenalism should be both limited and have a certain empirical specificity. They should aim to show that one class of properties does not affect a second class, not that the first has no effects at all. (Shapiro and Sober, 7)

By limiting the scope of broad epiphenomenalist claims (i.e. claims about one class of entities being epiphenomenal in general rather than with respect to some specific class of other entities), Shapiro and Sober are attempting to open up some wiggle room for mental causation by way of this shift to an alternative theory of causation. Implicit in this approach is the view that the Problem of Mental Causation can be solved by switching to an alternative theory of causation, which contradicts Jaegwon Kim's purposeful neutrality about the nature of the causal relationship between P and P*:

> This conception of how epiphenomenalism ought to be developed helps clarify some mistakes in two recent epiphenomenalist positions – Jaegwon Kim's (1993) arguments against mental causation, and the arguments developed by Walsh (2000), Walsh, Lewens, and Ariew (2002), and Matthen and Ariew (2002) that natural selection and drift are not causes of evolution. A manipulationist account of causation (Woodward 2003) leads naturally to an account of how macro- and micro-causation are related and to an understanding of how

> epiphenomenalism at different levels of organization should be understood. (Shapiro and Sober, abstract, 1)

I will argue here that a switch to a manipulationist account of causation is inadequate to solve the problems raised by Kim in the Problem of Causal Exclusion. In addition I will show that the manipulationist account of causation itself would prohibit a coherent account of mental causation by using that causal theory's own requirements for determining the causal status of an entity.

If it is fundamentally impossible to manipulate a supervening mental property while holding its physical supervenience base fixed, then it would be fundamentally impossible to establish the causal efficacy of any such supervening mental property via the method that Shapiro, Sober and Woodward collectively advocate. On this account, then, it would never be possible to coherently posit a supervening mental property M to be causally efficacious since it would never be possible to hold M fixed with respect to all background conditions. The fact that M supervenes on P would prohibit any manipulation of this sort (the modal considerations above aside). As a consequence, I fail to see how a switch to the manipulationist account of causation will be fruitful in defeating the claim that mental properties are epiphenomenal.

Perhaps Shapiro and Sober are merely attempting to show that mental properties like M are in fact epiphenomenal with respect to the physical domain, but not that mental properties are epiphenomenal in general. If one posits the relationship between M and P to be mereological (i.e. a part-whole relationship), then this would allow for the view that mental properties could be causally efficacious with respect to other mental properties at the same level or to even higher-order mereological levels and properties. The problem with this approach to saving mental causation by limiting the scope of epiphenomenalist claims is that Kim seems to be correct in his view that any supposed mental effect of M would itself have a supervenience base that plausibly preempts the mental cause as the sufficient condition for the mental effect. The problem I see with Shapiro and Sober's argument here is that one is still forced into the problem of Causal Exclusion if one posits that each higher-order property itself has a lower level supervenience base. One cannot escape the Problem of Causal Exclusion without violating the principle of causal closure of the physical domain, as Kim's considerations on joint causation demonstrate.

Shapiro and Sober could, of course, posit that a physical supervenience base and its supervening mental property jointly

count as a sufficient cause of an effect. However, this would raise the set of worries about causal closure that Kim considers within the scope of The Supervenience Argument. As such I do not hold that this approach would serve Shapiro and Sober's argument very fruitfully.

If Woodward's manipulationist account of causation itself results in an incoherent account of mental causation, the lesson is clear that the problem of mental causation is perhaps deeper than Shapiro and Sober imagine. Shapiro and Sober hold that the Problem of Causal Exclusion can be easily dismissed by shifting to a manipulationist account of causation. But as I have shown above, one is still forced into the Problem of Causal Exclusion on this alternative account of causation. This seems to be the basis for Jaegwon Kim's neutrality about which theory of causation is correct. It appears from this chain of reasoning that the Problem of Causal Exclusion can be generated regardless of which particular account of causation one adopts. The overall relationships between P, M and P* remain the same regardless of how one fleshes out those relationships via particular theories of causation or supervenience. In addition the manipulationist account of causation itself has the unhappy consequence (for mental causation, that is) that one could in principle never manipulate a mental property M in such a way as

to justify its role as a cause with respect to P*. And if one posits M as a cause of any higher order property, then one is thrust right back into the problems Kim considers in his Supervenience Argument.

Shapiro and Sober could reply here that this is only a problem for mental causation if one adopts Kim's requirement that supervening properties have novel causal powers. But as I have shown above, Kim's Supervenience Argument actually does not depend on this point and at best this would raise the problems of overdetermination and joint causation all over again. Those Kim-influenced concerns aside, however, an account of mental causation that posits a supervening mental property M as a joint cause with its physical supervenience base P would violate the requirements laid out in the manipulationist account of causation itself.

Recall that for an entity to be justifiably posited as a cause under the manipulationist account of causation, one must first be able to isolate that supposed cause from all relevant background conditions. While it is true that one may be able to isolate the mental property M and its physical supervenience base P jointly from all other surrounding background conditions, this does not itself force the conclusion that M is causally efficacious. Merely isolating M and P jointly would be

consistent with the view that M is causally efficacious when conjoined with P, but it would also be consistent with the view that P alone is causally efficacious with M being an epiphenomenon. However, according to the manipulationist account of causation, one would have to isolate a property against all background conditions in order to establish its role as a cause with respect to some effect. Shapiro and Sober's own claim that M cannot be isolated with respect to P undermines their ability to posit M as a cause apart from P in any way.

There are only two possible solutions to this dilemma. Either one can adopt a view that M and P are overdetermining and independent sufficient causes of all resulting effects, or one can adopt the view that P alone is the single sufficient cause of those effects with M as a supervening epiphenomenal consequence of P. Thus, even if one adopts a manipulationist account of causation, the discussion is forced back in the direction of Kim's original reasoning in his Supervenience Argument. Either one must face the problems Kim raises for the view that M and P are overdetermining causes or joint sufficient causes, or else one is forced to give up the view that a mental property M could be causally efficacious on a nonreductive physicalist account of mental properties. This underscores Karen Bennett's claim that the Problem of Causal Exclusion is

centrally a claim about overdetermination, although one might just as well claim that the Problem of Causal Exclusion is centrally a problem about the causal closure of the physical domain.